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GRAFTING-MACHINE.

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To all whom it may concern:

Be it known that I, DARIUS B. SPEER, a citizen of the United States, residing at Bluegrass, in the county of Scott and State of Iowa, have invented a new and useful Grafting-Machine, of which the following is a specification.

This invention relates to grafting-machines.

The object of the invention is in a ready, rapid, and accurate manner to bevel and split scions and roots whereby the same may be perfectly spliced.

With the above and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a grafting-machine, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like characters of reference indicate corresponding parts, there is illustrated one form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the spirit thereof.

In the drawings, Figure 1 is a side elevation, partly in section, of a machine constructed in accordance with the present invention. Fig. 2 is a top plan view of a portion of the machine. Fig. 3 is a sectional detail view of the rest or support upon which the scions and roots are held while being operated upon. Fig. 4 is a collective detail view exhibiting the various steps of cutting a scion or root leading up to the complete splice. Fig. 5 is a detail view of a slightly-modified form of the invention.

The supporting-frame of the machine comprises a vertical upright 1, an inclined seat-support 2, and legs 3, of which there are three in this instance—one at the front and two at the back. This frame is by preference made as a solid casting, although, if preferred, it may be constructed in sections and be assembled in any preferred manner. Combined with the seat-support is a seat 4, the shank 5 of which is secured to the support in any preferred manner to permit of its being adjusted to suit the operator. Projecting from the front portion of the upright is an upward-curved arm 6, which may be either integral with the upright or secured thereto, and detachably connected with the upper end of the arm is a tray or receptacle 7, provided to receive the scions and roots that have been operated upon in the manner presently to be described. The upright also has combined with it a tray or receptacle 9, divided into two compartments by a partition 10, and these two compartments contain, respectively, the scions and the roots, which are kept separated until spliced and deposited in the tray 7, the object being to prevent confusion, and thus loss of stock, which would result if two scions were spliced instead of the root and a scion.

Journaled in a bearing 11 on the arm 6 is the upper portion of a vertical shaft 12, the lower end of which is journaled in a bearing formed in an offset 13 at the lower portion of the upright. The shaft projects beyond the bearing and carries a wheel 14, which is formed with a single spoke 15, having a hub 16 preferably integral therewith, through which the shaft passes, the hub being held combined with the shaft by means of a key 17 or other suitable means. This wheel is required only to make a part of a revolution—say about three-quarters—and a single spoke is provided which will allow it to revolve through an arc sufficient to effect beveling and splitting of the scion and the root, although the arm 6 projects upward through it.

Projecting downward from the under side of the wheel-rim are two lugs or bosses 18 and 19, which may be either integral with the wheel-rim or be secured thereto, as preferred. To the boss 18, which is the longer, is secured a beveling-knife 20, and to the boss 19 is secured a splitting-knife 21. As clearly shown in Fig. 1, the beveling-knife is disposed at an angle to the plane of the under side of the wheel, while the splitting-knife occupies a plane parallel therewith and is so disposed as to strike a scion or root along its median line. In order to protect the operator's hand from being cut in the operation of the machine, there is a shield or guard 22 provided, which is riveted or otherwise secured to the upper face of the wheel and projects outward beyond the terminals of the two knives.

The upper end of the support on the side opposite the arm 6 is provided with an offset 23, upon which is secured a work-rest 24, the same comprising a plate provided with two grooves 25 and 26 to receive a scion and a root, respectively, the forward end of the support being beveled or cut away, as at 26, to